

# MUNICIPAL WIRELESS

COST OF OWNERSHIP

FINANCE MODELS

GATHERING DATA

FUNDING SOURCES

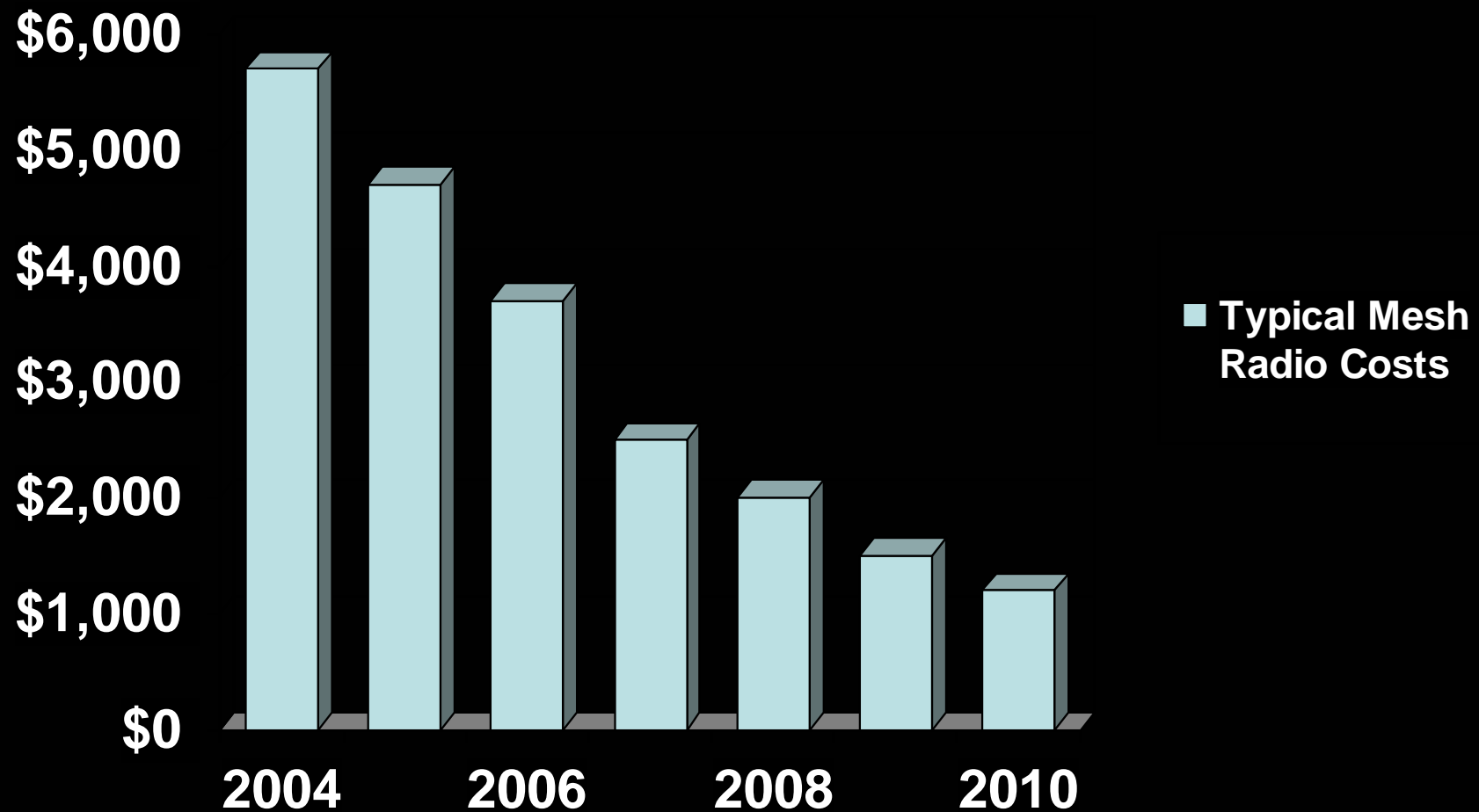
FINANCIAL PLANNING



# **COST OF OWNERSHIP**

- ▶ **Costs are going to be different for every city**
- ▶ **Deployment Costs include:**
  - **WiFi Mesh Radios**
  - **Point-to-Multipoint Wireless Hardware**
  - **Other Network Hardware**
  - **Design**
  - **Site Acquisition**
  - **Installation**
- ▶ **Ongoing Costs include:**
  - **Internet Access**
  - **Network Monitoring**
  - **Network Management**
  - **Network Maintenance**

# Cost per WiFi Mesh Radio



# DEPLOYMENT COST

## ASSUMPTIONS\*

### ► 20 Square Miles

- Average 35 WiFi Mesh Radios / sq. mi. = 700 Radios
- 700 Radios \* \$2,000 = \$1,400,000 in Mesh Gear
- \$150,000 in POP & PtMP Gear
- \$150,000 in Other Gear
- \$140,000 for Design
- \$280,000 for Installation

### ► 100 City Vehicles

- \$200 per vehicle for WiFi = \$20,000

### ► TOTAL = \$2,120,000

\* For estimate purposes only!

# ONGOING OPERATIONAL COSTS

- ▶ **Internet Access (DS3)**
  - Single POP = \$5,000 per month
- ▶ **Network Monitoring**
  - 700 Radios at \$8 per AP = \$5,600 per month
- ▶ **Network Management**
  - 700 Radios at \$8 per AP = \$5,600 per month
- ▶ **Network Maintenance**
  - 700 Radios at \$16 per AP = \$11,200 per month
- ▶ **TOTAL = \$27,400 per month**

\* These costs depend upon several variables (technology platform, design quality, features, etc.)

# TOTAL COSTS

- ▶ **DEPLOYMENT TOTAL = \$2,120,000**
- ▶ **ONGOING TOTAL = \$27,400 per month**



**HOW AM I  
GONNA FUND  
THIS DARN  
THING?**

# HELPFUL OPTIONS

- ▶ **TRADITIONAL BANK FINANCING**
- ▶ **TAX-EXEMPT FINANCING**
  - Networks are financed at very low interest
- ▶ **VENDOR FINANCING**
  - Network equipments are financed with zero interest by vendors themselves.
  - \$2,120,000 @ 60 months = \$35,333 per month
  - \$2,120,000 @ 84 months = \$25,238 per month
- ▶ **GRANT FUNDING**



# TEAMWORK REQUIRED

- ▶ **Gather data from key stakeholders**
- ▶ **Work with Economic Development**
- ▶ **Work with Public Safety**
- ▶ **Work with Public Works**
- ▶ **Perform Community Outreach**
- ▶ **Work with the Press**
- ▶ **Audit your Telecom Expenses**
- ▶ **Develop Goals & Objectives**
- ▶ **Make sure it's doable**
- ▶ **Ask lots of questions!!!**



# OFFSETTING COSTS

- ▶ Establishing **HARD COSTS** and **SOFT COSTS** is very difficult to quantify
- ▶ No two cities are alike
- ▶ The next few slides are for example purposes only.

**DEPLOYMENT (84 MONTHS) TOTAL = \$25,238/mo**

**ONGOING TOTAL = \$27,400/month**

**COMBINED TOTAL = \$52,638**

# **NEW EFFICIENCIES = NEW FUNDS**

- ▶ **100 Vehicles pay \$60 per month for EV-DO/Air cards**
  - Represents \$6,000 per month
- ▶ **Parking Meter Automation Efficiencies**
  - Study reveals cost savings reduce operational costs by \$3,000 per month
- ▶ **Schools receive wireless broadband**
  - Remove (10) T1s – \$5,000 per month in savings
- ▶ **Economic Development Benefits**
  - Business increase –\$3,000 per month in sales taxes
- ▶ **TOTAL EFFICIENCIES “SAVINGS” = \$17,000 per month**

# REVISED MATH

- ▶ ONGOING TOTAL = ~~\$27,400/month~~
- ▶ NEW ONGOING TOTAL = \$10,600 per month

DEPLOYMENT (84 MONTHS) TOTAL = \$25,238/mo  
ONGOING TOTAL = \$10,600/month

**NEW COMBINED TOTAL = \$35,838**

# THE SOFT IMPACT OF APPLICATIONS

**VIDEO SURVEILLANCE**

▶ **PtMP Network in place**

**GUNSHOT SENSORS**

**25% of WiFi Mesh in place**

**PARKING METERS  
AUTOMATED**

**10% more WiFi in place**

**REDUCED OVERTIME**

**Police in field more, Field inspections,  
greater efficiencies, etc.**

# SUMMARIZE

- ▶ You should now have a pretty good idea of costs
- ▶ Applications are available now
- ▶ New applications are emerging
- ▶ There are “intangibles” to wireless broadband
- ▶ Work collaboratively
- ▶ There are creative ways to finance networks
- ▶ There are other sources of funds...

# THANK YOU!

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